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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,131	01/11/2002	Daniel R. Franzen	22-0193	8145

7590 02/23/2005

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EXAMINER	
DEAN, RAYMOND S	
ART UNIT	**PAPER NUMBER**
2684	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/044,131	FRANZEN ET AL.	
	Examiner	Art Unit	
	Raymond S Dean	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see amendment filed November 22, 2004 with respect to the rejection(s)of claim(s) 1 under 35 U.S.C. 102(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art. Examiner agrees with Representative's assertion on Page 11, 1st Paragraph of Remarks "Accordingly, Sarraf does not teach an input section to receive a plurality ...". Sarraf, however, does teach an input section to receive a plurality of first spot beams and an output section to transmit a plurality of second spot beams (See Figures 1 and 2). Adiwoso et al. (6,067,453) teaches the receiving and transmission of spot beams via any one of a plurality of antennas (See Column 4 lines 25 – 29, Column 6 lines 11 – 18, Column 8 lines 26 – 27). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the flexible allocation of spot beams method and circuitry taught in Adiwoso in the satellite system of Sarraf for the purpose of creating a flexible satellite system that can dynamically change according to the demand of users within a geographical region as taught by Adiwoso.

2. Applicant's arguments, see amendment filed November 22, 2004 with respect to the rejection(s)of claim(s) 6 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further

consideration, a new ground(s) of rejection is made in view of newly found prior art. Examiner agrees with Representative that Sarraf does not teach power dividing. Adams et al. (US 6,442,148) teach a satellite system that comprises power-dividing circuitry (See Figure 1, Column 6 lines 18 – 24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the power dividing circuitry taught by Adams in the input switch matrix of Sarraf for the purpose of providing a plurality of frequency bands for processing as taught by Adams.

3. Applicant's arguments, see amendment filed November 22, 2004 with respect to the rejection(s)of claim(s) 3 under 35 U.S.C. 102(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of a different interpretation of the Avitzour reference. Examiner agrees with Representative's assertion on Page 12, Section II, 3rd Paragraph of the Remarks "Avitzour is making a clear distinction.....". Avitzour, however, does teach a plurality of sets of spot beams (See Figure 1, Section 0009 lines 1 – 3, Section 0037 lines 4 – 5). The set of beams associated with the Hub is the primary set and the other sets are secondary sets of spot beams.

4. Applicant's arguments filed November 22, 2004 with respect to the rejection of Claim 7 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive. Regarding Representative's assumption on Page 13, Section III, 2nd Paragraph of the Remarks "It is respectfully submitted that Representative for applicant assumes that the

Office Action intended .....". Examiner's intended recitation of why it would have been obvious to combine Sarraf, Norin, and Avitzour is as was stated on page 7 of the Office Action dated June 24, 2004. Examiner agrees with Representative's assertion on Page 13, Section III, 3rd Paragraph of the Remarks "Norin, however, does not teach or suggest selectively switching ....". Examiner also agrees with Representative's assertion on Page 13, Section III, 3rd Paragraph of the Remarks "Avitzour, however, only teaches the use of a single hub.....". Avitzour, however, does teach a plurality of spot beams of which any uplink beam can act as a gateway beam. There are a plurality of spot beams associated with the Hub or gateway thus anyone of said beams can act as a gateway beam (See Section 0009 lines 1 – 3). Norin, however, teaches selectively switching a plurality of spot beams to allow an uplink signal for purposes of testing first and second spot beams (See Figure 4, Column 4 lines 14 – 65). It would have been obvious to modify Sarraf with Norin and Sarraf in view of Norin with Avitzour for the reasons set forth on Page 5 and Page 7 of the Office Action dated June 24, 2004.

5. Applicant's arguments filed November 22, 2004 with respect to the rejection of Claim 11 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive. Examiner respectfully disagrees with Representative's assertion on Page 14, 1st Paragraph of the Remarks "Norin, however, individually or combined with Sarraf ....". The antennas are connected to the transponders and therefore are a part of the satellite payload, thus when the satellite is repositioned the antennas will be repositioned in order to be aligned with the ground test antenna.

6. Applicant's arguments filed November 22, 2004 with respect to the rejection of Claim 14 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive. Examiner respectfully disagrees with Representative's assertion on Page 14, 2nd Paragraph of the Remarks "As discussed above with regard to Claim 7 ....", for the same reasons as set forth above regarding Claim 7.

7. Examiner respectfully disagrees with Representative's assertion on Page 14, Section IV, 2nd Paragraph "As discussed above with regard to Claim 3, Avitzour, alone or in combination with other cited art ....", for the same reasons set forth above regarding Claim 3.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarraf et al. (US 6,175,719) in view of Adiwoso et al. (6,067,453) and in further view of Adams et al. (US 6,442,148).

Regarding Claim 1, Sarraf teaches a multi-beam satellite comprising: an input section to receive a plurality of first spot beams; an output section to transmit a plurality of second spot beams (Figure 1, Figure 2); and a payload architecture coupled between said input section and said output section (Figure 2), said payload architecture flexibly and selectively switching and filtering signals from said plurality of first spot beams received by said input section and routing the signals to said output section to be transmitted as said plurality of second spot beams (Column 3 lines 6 – 56).

Sarraf does not teach an input section to receive a plurality of first spot beams via any one of a plurality of uplink antennas, an output section to transmit a plurality of second spot beams via any one of a plurality of downlink antennas, and power dividing signals.

Adiwoso teaches the receiving and transmission of spot beams via any one of a plurality of antennas (Column 4 lines 25 – 29, Column 6 lines 11 – 18, Column 8 lines 26 – 27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the flexible allocation of spot beams method and circuitry taught in Adiwoso in the satellite system of Sarraf for the purpose of creating a flexible satellite system that can dynamically change according to the demand of users within a geographical region as taught by Adiwoso.

Sarraf in view of Adiwoso does not teach power dividing signals.

Adams teaches power dividing signals (Figure 1, Column 6 lines 18 – 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the power dividing circuitry taught by Adams in the input switch matrix of Sarraf for the purpose of providing a plurality of frequency bands for processing as taught by Adams.

Regarding Claim 18, Sarraf in view of Adiwoso and in further view of Adams teaches all of the claimed limitations recited in Claim 1. Sarraf further teaches wherein a given signal form said plurality of first spot beams is routed to a plurality of switching devices (Figure 2, the switch matrix (132) comprises a plurality of switching devices). Adams further teaches power dividing is performed through a plurality of power dividers (Figure 1, Column 6 lines 18 – 24, the input switch matrix comprises a plurality of power dividers).

Regarding Claim 19, Sarraf in view of Adiwoso and in further view of Adams teaches all of the claimed limitations recited in Claim 18. Adams further teaches wherein the power dividers comprise at least one of a plurality of 1:3 power dividers and 1:2 power dividers (Figure 3, Column 6 lines 18 – 24).

10. Claims 2 – 5 and 20 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarraf et al. (US 6,175,719) in view of Adiwoso et al. (6,067,453) in further view of Adams et al. (US 6,442,148), as applied to Claim 1 above, and further in view of Avitzour et al. (US 2002/0032003).

Regarding Claim 2, Sarraf in view of Adiwoso and in further view of Adams teaches all of the claimed limitations recited in Claim 1. Sarraf further teaches wherein

said payload architecture switches to select one of said plurality of first spot beams received by said input section (Column 3 lines 6 – 56).

Sarraf in view of Adiwoso and in further view of Adams does not teach first spot beams that contain a gateway.

Avitzour teaches first spot beams that contain a gateway (Figure 1, the HUB is the gateway).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gateway taught in Avitzour in the satellite system of Sarraf in view of Adiwoso and in further view of Adams for the purpose of establishing an outbound channels path to the end user terminals.

Regarding Claim 3, Sarraf in view of Adiwoso in further view of Adams and in further view of Avitzour teaches all of the claimed limitations recited in Claim 2. Avitzour further teaches primary beams and secondary beams (Figure 1, Section 0009 lines 1 – 3, Section 0037 lines 4 – 5, the set of beams associated with the Hub is the primary set and the other sets are secondary sets of spot beams).

Regarding Claim 4, Sarraf in view of Adiwoso in further view of Adams and in further view of Avitzour teaches all of the claimed limitations recited in Claim 3. Avitzour further teaches a primary beam contains a gateway (Figure 1, Section 0009 lines 1 – 3, Section 0037 lines 4 – 5, the set of beams associated with the Hub is the primary set and the other sets are secondary sets of spot beams thus the primary beam will contain a gateway).

Regarding Claim 5, Sarraf in view of Adiwoso in further view of Adams and in further view of Avitzour teaches all of the claimed limitations recited in Claim 2. Sarraf further teaches wherein said payload architecture allocates return channels among said plurality of first spot beams by switching and filtering of said plurality of first spot beams (Column 3 lines 6 – 56).

Regarding Claim 20, Sarraf in view of Adiwoso and in further view of Adams teaches all of the claimed limitations recited in Claim 1. Sarraf further teaches an inverse multiplexer operative to receive switched signals from the plurality of first spot beams and combine them into a first combined signal, wherein the first combined signal is transmitted from the output section to a ground cell (Figure 1, Figure 2, Column 3 lines 26 – 28, Column 3 lines 33 – 38, the DSPR conducts the multiplexing). Adams further teaches power divided signals (Column 6 lines 18 – 24).

Sarraf in view of Adiwoso and in further view of Adams does not teach a gateway ground cell.

Avitzour teaches a gateway ground cell (Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gateway taught in Avitzour in the satellite system of Sarraf in view of Adiwoso and in further view of Adams for the purpose of establishing an outbound channels path to the end user terminals.

Regarding Claim 21, Sarraf in view of Adiwoso in further view of Adams and in further view of Avitzour teaches all of the claimed limitations recited in Claim 20. Sarraf

further teaches wherein the ground cell is covered by one of the second spot beams (Figure 1, Figure 2). Avitzour further teaches a gateway ground cell (Figure 1).

11. Claims 7 and 9 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarraf et al. (US 6,175,719) in view of Adiwoso et al. (6,067,453) in further view of Norin (US 6,233,433) and in further view of Avitzour et al. (US 2002/0032003).

Regarding Claim 7, Sarraf teaches a multi-beam satellite comprising: an input section to receive uplink signals from a plurality of first spot beams; an output section to transmit a plurality of second spot beams (Figure 1, Figure 2); and a payload architecture coupled between said input section and said output section (Figure 2), said payload architecture flexibly and selectively switching and filtering said plurality of first spot beams received at said input section and routing the switched and filtered plurality of second spot beams transmitted by said output section (Column 3 lines 6 – 56).

Sarraf does not teach an input section to receive uplink signals from a plurality of first spot beams via any one of a plurality of uplink antennas, an output section to transmit a plurality of second spot beams via any one of a plurality of downlink antennas, performing testing of each of said plurality of first spot beams and each of said plurality of second spot beams, wherein said payload architecture selectively switches said plurality of first spot beams to allow any uplink signal to act as a gateway signal for purposes of testing.

Adiwoso teaches the receiving and transmission of spot beams via any one of a plurality of antennas (Column 4 lines 25 – 29, Column 6 lines 11 – 18, Column 8 lines 26 – 27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the flexible allocation of spot beams method and circuitry taught in Adiwoso in the satellite system of Sarraf for the purpose of creating a flexible satellite system that can dynamically change according to the demand of users within a geographical region as taught by Adiwoso.

Sarraf in view of Adiwoso does not teach performing testing of each of said plurality of first spot beams and each of said plurality of second spot beams, wherein said payload architecture selectively switches said plurality of first spot beams to allow any uplink signal to act as a gateway signal for purposes of testing.

Norin teaches performing testing of each of said plurality of first spot beams and each of said plurality of second spot beams, wherein said payload architecture selectively switches said plurality of first spot beams to allow an uplink signal for purposes of testing (Figure 4, Column 4 lines 14 – 65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the testing method taught in Norin in the satellite system of Sarraf in view of Adiwoso for the purpose of verifying the operation of the satellite subsystems as taught by Norin.

Sarraf in view of Adiwoso and in further view of Norin does not teach allowing any uplink signal to act as a gateway signal for purposes of testing.

Avitzour teaches allowing any uplink signal to act as a gateway signal (Section 0009 lines 1 – 3, there are a plurality of spot beams associated with the Hub or gateway thus anyone of said beams can act as a gateway beam).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gateway taught in Avitzour in the satellite system of Sarraf in view of Adiwoso and in further view of Norin for the purpose of establishing an outbound channels path to the end user terminals as taught by Avitzour.

Regarding Claim 9, Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour teaches all of the claimed limitations recited in Claim 7. Norin further teaches wherein said testing is performed using test signals from a single ground station (Column 5 lines 11 - 14).

Regarding Claim 10, Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour teaches all of the claimed limitations recited in Claim 7. Norin further teaches wherein said payload architecture allows connectivity, for test purposes only, of one of said plurality of second spot beams corresponding to a cell with one of said plurality of first spot beams corresponding to said cell (Figure 4, Column 4 lines 14 – 65).

Regarding Claim 11, Sarraf in view of Adiwoso in further view Norin and in further view of Avitzour teaches all of the claimed limitations recited in Claim 9. Norin further teaches wherein said testing operates in conjunction with a control system to reposition at least one first antenna and at least one second antenna so that each one of said plurality of first spot beams and said plurality of second spot beams can be tested from

said single ground station (Column 4 lines 27 – 30, the antennas are connected to the transponders and therefore are a part of the satellite payload, thus when the satellite is repositioned the antennas will be repositioned in order to be aligned with the ground test antenna).

Regarding Claim 12, Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour teaches all of the claimed limitations recited in Claim 7. Avitzour further teaches wherein said plurality of first spot beams includes spot beams corresponding to primary cells and secondary cells (Figure 1, Section 0009 lines 1 – 3, Section 0037 lines 4 – 5, the set of beams associated with the Hub is the primary set and the other sets are secondary sets of spot beams thus there will be primary and secondary cells).

Regarding Claim 13, Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour teaches all of the claimed limitations recited in Claim 12. Norin further teaches testing of first spot beams (Column 4 lines 14 – 65). Avitzour further teaches first spot beams corresponding to a secondary cell (Figure 1, Section 0009 lines 1 – 3, Section 0037 lines 4 – 5, the set of beams associated with the Hub is the primary set and the other sets are secondary sets of spot beams or thus there will be primary and secondary cells).

Regarding Claim 14, Sarraf teaches receiving a plurality of first spot beams at said satellite; transmitting a plurality of second spot beams from said satellite; switching said plurality of first spot beams to allow connectivity of a first spot beam in a cell with a second spot beam in said cell (Figure 1, Figure 2, Column 3 lines 6 – 56).

Sarraf does not teach a method of testing a multi-beam satellite, said method comprising receiving a plurality of first spot beams at said satellite via any one of a plurality of uplink antennas, transmitting a plurality of second spot beams from said satellite via any one of a plurality of downlink antennas, sending a test signal from a single ground station on said first spot beam and receiving the test signal at said second spot beam to test said first spot beam and said second spot beam, wherein any one of said plurality of first spot beams can act as a gateway for the purposes of testing said first spot beam and said second spot beam.

Adiwoso teaches the receiving and transmission of spot beams via any one of a plurality of antennas (Column 4 lines 25 – 29, Column 6 lines 11 – 18, Column 8 lines 26 – 27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the flexible allocation of spot beams method and circuitry taught in Adiwoso in the satellite system of Sarraf for the purpose of creating a flexible satellite system that can dynamically change according to the demand of users within a geographical region as taught by Adiwoso.

Sarraf in view of Adiwoso does not teach does not teach a method of testing a multi-beam satellite, said method comprising sending a test signal from a single ground station on said first spot beam and receiving the test signal at said second spot beam to test said first spot beam and said second spot beam, wherein any one of said plurality of first spot beams can act as a gateway for the purposes of testing said first spot beam and said second spot beam.

Norin teaches a method of testing a multi-beam satellite, said method comprising sending a test signal from a single ground station on said first spot beam and receiving the test signal at said second spot beam to test said first spot beam and said second spot beam (Figure 4, Column 4 lines 14 – 65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the testing method taught in Norin in the satellite system of Sarraf in view of Adiwoso for the purpose of verifying the operation of the satellite subsystems as taught by Norin.

Sarraf in view of Adiwoso and in further view of Norin does not teach wherein any one of said plurality of first spot beams can act as a gateway.

Avitzour teaches wherein any one of said plurality of first spot beams can act as a gateway (Section 0009 lines 1 – 3, there are a plurality of spot beams associated with the Hub or gateway thus anyone of said beams can act as a gateway beam).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gateway taught in Avitzour in the satellite system of Sarraf in view of Adiwoso and in further view of Norin for the purpose of establishing an outbound channels path to the end user terminals as taught by Avitzour.

Regarding Claim 15, Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour teaches all of the claimed limitations recited in Claim 14. Norin further teaches repeating said step of sending a test signal for each one of said plurality of first spot beams and each one of said plurality second spot beams from said single ground station (Figure 4, Column 4 lines 14 – 65).

Regarding Claim 16, Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour teaches all of the claimed limitations recited in Claim 15. Norin further teaches wherein said satellite comprises a first antenna or antenna set receiving said plurality of first spot beams and a second antenna or antenna set transmitting said plurality of second spot beams, and said first antenna or antenna set and said second antenna or antenna set are repositioned for each pair of one of said plurality of first spot beams and one of said plurality of second spot beams corresponding to a cell (Column 4 lines 24 – 41).

12. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarraf et al. (US 6,175,719) in view of Adiwoso et al. (6,067,453) in further view of Norin (US 6,233,433) and in further view of Avitzour et al. (US 2002/0032003), as applied to Claim 15 above, and further in view of Dolmeta et al. (US 6,288,673)

Regarding Claim 17, Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour teaches all of the claimed limitations recited in Claim 15. Sarraf further teaches one or more antennas receiving said plurality of first spot beams and transmitting said plurality of second spot beams (Figure 2) Norin further teaches said antenna is repositioned for each pair of one of said plurality of first spot beams and one of said plurality of second spot beams corresponding to a cell (Column 4 lines 24 – 41).

Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour does not teach shared antenna apertures.

Dolmeta teaches shared antenna apertures (Column 2 lines 40 - 44, antenna arrays comprise shared apertures).

Sarraf in view of Norin and Dolmeta teach a multiple beam satellite system thus It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the shared antenna apertures taught in Dolmeta in the satellite system of Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour for the purpose of preserving optimal transmission and/or reception performance with a minimum increase in mass and bulk as taught by Dolmeta.

13. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarraf et al. (US 6,175,719) in view of Adiwoso et al. (6,067,453) in further view of Adams et al. (US 6,442,148) in further in view of Avitzour et al. (US 2002/0032003), as applied to Claim 2 above, and further in view of Norin (US 6,233,433).

Regarding Claim 22, Sarraf in view of Adiwoso in further view of Adams and in further view of Avitzour teaches all of the claimed limitations recited in Claim 2. Avitzour further teaches a gateway (Figure 1).

Sarraf in view of Adiwoso in further view of Adams and in further view of Avitzour does not teach wherein the gateway is operative to generate an uplink signal and monitor a downlink signal corresponding to the uplink signal for the purposes of testing.

Norin teaches generating an uplink signal and monitoring a downlink signal corresponding to the uplink signal for the purposes of testing (Column 4 lines 14 – 65)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the testing method taught in Norin in the satellite system of Sarraf in view of Adiwoso in further view of Adams and in further view of Avitzour for the purpose of verifying the operation of the satellite subsystems as taught by Norin.

14. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarraf et al. (US 6,175,719) in view of Adiwoso et al. (6,067,453) in further view of Norin (US 6,233,433) and in further view of Avitzour et al. (US 2002/0032003), as applied to Claim 7 above, and further in view of Adams et al. (US 6,442,148).

Regarding Claim 23, Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour teaches all of the claimed limitations recited in Claim 7. Norin further teaches routing an uplink signal to any of the plurality of second spot beams for purposes of testing (Figure 4, Column 4 lines 14 – 65). Avitzour further teaches any uplink can act as a gateway beam (Section 0009 lines 1 – 3, there are a plurality of spot beams associated with the Hub or gateway thus anyone of said beams can act as a gateway beam).

Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour does not teach a plurality of 1:3 power dividers.

Adams teaches a plurality of 1:3 power dividers (Figure 3, Column 6 lines 18 – 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the power dividing circuitry taught by Adams in the input

switch matrix of Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour for the purpose of providing a plurality of frequency bands for processing as taught by Adams.

15. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sarraf et al. (US 6,175,719) in view of Adiwoso et al. (6,067,453) in further view of Norin (US 6,233,433) in further view of Avitzour et al. (US 2002/0032003), as applied to Claim 7, and further in view of Perrotta (5,194874).

Regarding Claim 24, Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour teaches all of the claimed limitations recited in Claim 7. Norin further teaches wherein the performance of the plurality of first and second spot beams is tested by re-pointing a satellite antenna structure (Column 4 lines 27 – 30, the antennas are connected to the transponders and therefore are a part of the satellite payload, thus when the satellite is repositioned the antennas will be repositioned in order to be aligned with the ground test antenna).

Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour does not teach re-pointing a satellite antenna structure in a scan pattern.

Perrotta teaches re-pointing a satellite antenna structure in a scan pattern (Column 3 lines 62 – 65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the re-pointing circuitry taught in Perrotta in the antenna of

Sarraf in view of Adiwoso in further view of Norin and in further view of Avitzour for the purpose of accurately pointing the antenna as taught by Perrotta.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S Dean whose telephone number is 703-305-8998. The examiner can normally be reached on 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond S. Dean
February 18, 2005

NAY MAUNG
SUPERVISORY PATENT EXAMINER